CLAIMS

1 - Process for treating a gas by means of an active packing, of the type in which a cycle is performed which comprises at least one treatment phase, in the course of which a gas to be treated is caused to circulate through the packing, and at least one phase for regenerating the packing, characterized in that, during at least one of the phases of the cycle, the flow of circulating gas is locally increased or decreased in at least one marginal region of the packing.

2 - Process according to claim 1, characterized in that the packing comprises at least one bed of active particles, especially of adsorbent.

3 - Process according to claim 2, characterized in that said bed is annular.

4 - Process according to claim 3, characterized in that said marginal region is the upper region, forming a guard, of said annular bed.

5 - Process according to any one of claims 1 to 4, characterized in that, during said phase, said marginal region is placed in communication with a point which lies at a pressure different from that of an adjacent region of the packing.

6 - Process according to claim 5, characterized in that said point is a point of the surrounding atmosphere.

7 - Process according to any one of claims 1 to 6, characterized in that said phase is a phase for flushing of the packing by means of a regeneration gas.

8 - Process according to claim 7, characterized in that, in the course of said phase, the ratio of the flow rate of regeneration gas to the flow rate of gas to be treated is caused in said region to be greater than the overall ratio of these two flow rates in the packing.

9 - Process according to claims 5 and 8 taken together, characterized in that said point is a point of a conduit for evacuation of the regeneration gas having passed through the packing.

10 - Process according to claims 5 and 8 taken together, characterized in that said point is a point of a supply conduit for regeneration gas.

11 - Process according to any one of claims 1 to 6, characterized in that said phase is a phase for treatment of the said gas.

12 - Process according to claims 5 and 10 taken together, characterized in that said point is the delivery of a compressor pierced onto the conduit for production of treated gas.

13 - Process according to any one of claims 1 to 6, characterized in that said phase is a phase for recompression of the packing.

14 - Process according to claims 5 and 12 taken together, characterized in that said point is a point of the conduit for production of treated gas.

15 - Process according to any one of claims 1 to 6, characterized in that said phase is a phase for decompression of the packing.

16 - Process according to any one of claims 1 to 14, characterized in that the packing comprises two concentric annular beds, and in that said marginal region comprises the upper region, forming a guard, of each annular bed.

17 - Process according to claim 16, characterized in that the height (h_1, h_2) of each guard-forming region is at most equal to half of the radial thickness (e1, e2) of the

corresponding bed, and in that, in the course of said phase, the guard-forming regions of the two beds are placed in communication with one another.

18 - Process according to claim 16, characterized in that, during said phase, the upper region of the radially inner bed is placed in communication with a point which lies at a lower pressure, and an additional auxiliary gas is introduced into the space overlying the other bed.

19 - Process according to claim 16, characterized in that, during said phase, an auxiliary gas is introduced into each of the spaces overlying a bed.

20 - Process according to any one of claims 1 to 19, characterized in that said treatment is a purification by adsorption of atmospheric air intended to be distilled.

21 - Process according to any one of claims 1 to 19, characterized in that said treatment is a separation of a gaseous mixture, especially a production of oxygen from atmospheric air, by pressure modulated adsorption optionally under vacuum.

22 - Reactor having active regenerable packing, characterized in that at least one marginal region of the packing is provided with means for placing said region at least temporarily in communication with a point which lies at

a different pressure from that of an adjacent region of the packing.

23 - Reactor according to claim 22, characterized in that said means comprise a conduit equipped with a stop valve.

24 - Reactor according to claim 22, characterized in that said means comprise a passage equipped with an anti-return flap valve adapted to close during the active operating phases of the packing and to open during the regeneration phases of this packing.

25 - Reactor according to any one of claims 22 to 24, characterized in that the packing comprises at least one bed of active particles, especially of adsorbent.

26 - Reactor according to claim 25, characterized in that said bed is annular.

27 - Reactor according to claim 26 when it depends from claim 23 or 24, characterized in that said conduit or said passage connects the space situated above the bed to the surrounding atmosphere.

28 - Reactor according to claim 26 when it depends from claim 23 or 24, characterized in that said conduit or said passage connects the space situated above the bed to a conduit for evacuation of gas from the bottom of the reactor.

29 - Reactor according to claim 26 when it depends from claim 23 or 24, characterized in that said conduit or said passage connects the space situated above the bed to a conduit for supply of auxiliary gas.

30 - Reactor according to claim 29, characterized in that said supply conduit is connected to an outlet of gas treated by the reactor.

31 - Reactor according to claim 29 or 30, characterized in that said supply conduit is equipped with a compressor.

32 - Reactor according to claim 26, characterized in that the packing comprises two concentric annular beds, and in that a passage provided with a valve of an anti-return flap valve connects the spaces which overlie the two beds.

33 - Reactor according to claim 26, characterized in that the packing comprises two concentric annular beds, and in that at least one partition delimiting a space overlying a bed is provided with an opening equipped with an anti-return flap valve which opens radially outwardly or inwardly.